

AMENDMENTS TO THE CLAIMS

AB 1. (Currently Amended) Multicapillary electrophoresis system comprising a plurality of juxtaposed capillaries, at least one source for the emission of a beam intended to excite molecules lying in its path and inside the capillaries and means for detecting the fluorescence of the molecules excited by said beam, ~~characterized in that~~ wherein said means are arranged so as to detect the light which emerges at the exit of said capillaries and which propagates along the direction in which said capillaries extend, ~~and in that~~ the resolution of the detection means is high enough to distinguish the light which emerges at the exit of each of the capillaries, and the refractive index of the media outside of the capillaries is equal or superior to that of the medium inside of the capillaries. 103 H-10129

2. (Currently Amended) ~~The M~~multicapillary electrophoresis system according to claim 1, wherein the resolution of the detection means is high enough to distinguish the light which emerges at the exit of each of the capillaries from that coming from the walls of the latter and/or from the medium which surrounds them. 104

3. (Currently Amended) The multicapillary electrophoresis sSystem according to claim 1, ~~characterized in that it includes a matrix of capillaries further~~ including said plurality of juxtaposed capillaries forming at least one linear array. 11

4. (Currently Amended) The multicapillary electrophoresis System-system according to ~~one of the preceding claims 1~~, ~~characterized in that wherein~~ the excitation beam is of elongate cross section and strikes several ~~superposed~~ juxtaposed capillaries simultaneously.

5. (Currently Amended) The multicapillary electrophoresis System-system according to claim [4]3, ~~characterized in that it includes~~ further including means, ~~such as~~ micro-lenses, for producing multiple focusing on a linear array of capillaries. 112

6. (Currently Amended) The multicapillary electrophoresis System-system according to ~~either of claims 4 and 5~~3, ~~characterized in that wherein~~ one linear array of capillaries produces multiple focusing at the entry of the following linear array the

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beam exiting the side of one capillary of one linear array is focused onto the adjacent juxtaposed capillary within the following linear array.

7. (Currently Amended) The multicapillary electrophoresis System-system according to ~~one of the preceding claims 6~~, characterized in that wherein the space between the capillaries is filled, at least along the path of the excitation beam, with a material whose refractive index is chosen so that the excitation beam does not diverge after having traveled through a capillary.

8. (Currently Amended) The multicapillary electrophoresis System-system according to claim 5, characterized in that wherein said material is transparent and non-fluorescent.

9. (Currently Amended) The multicapillary electrophoresis System-system according to ~~one of the preceding claims 1~~, characterized in that it includes further ¹¹² including means for applying pressure in ~~the~~ detection cuvette, which pressure allows the capillaries to be filled with ~~the~~ separating matrix.

10. (Currently Amended) The multicapillary electrophoresis System-system according to ~~one of the preceding claims 1~~, characterized in that it includes further including dispersion means for spatially separating the various fluorescence wavelengths. ^{is for 2}

11. (Currently Amended) The multicapillary electrophoresis System-system according to ~~one of the preceding claims 1~~, characterized in that wherein the detection means provide a complete image of the light exiting the capillaries.

12. (Currently Amended) The multicapillary electrophoresis System-system according to ~~one of the preceding claims 1~~, characterized in that wherein the detection means ~~comprise further includes~~ ¹¹² detection means of the charge-coupled device (CCD) type, as well as focusing means.

13. (Currently Amended) The multicapillary electrophoresis System-system according to ~~one of the preceding claims 1~~, characterized in that wherein the detection means ~~comprise further includes~~ ¹¹² detection means of the charge-coupled device (CCD)

13 type, as well as a fiber bundle interposed between the exits of the capillaries and the detection means of the charge-coupled device type.

Claims 14-15 (Canceled)

16. (Currently Amended) The multicapillary electrophoresis System-system according to claim 15-1 ~~in which~~ wherein the portion of the outside of the wall of the capillaries between the impact of the excitation beam and the end of the capillaries is turned black.

17. (Currently Amended) The multicapillary electrophoresis System-system according to claim 16 ~~in which~~ wherein the capillaries are glued on ~~their~~ a support.

18. (Currently Amended) The multicapillary electrophoresis System-system according to claim 17, ~~in which~~ wherein the capillaries are glued on ~~their~~ the support using a non-transparent glue.

19. (Currently Amended) The multicapillary electrophoresis System-system according to claim 1, ~~in which~~ wherein one end of the capillaries is placed in a cell under pressure and the capillaries are fixed on a support by glue suitable to resist the internal pressure of the cell.

20. (Currently Amended) The multicapillary electrophoresis System-system according to ~~any of preceding claims 1, in which~~ wherein the distance between the impact of the excitation beam on the capillaries and the end of the capillaries is between 6 to 30 times the internal diameter of the capillaries.

21. (Currently Amended) The multicapillary electrophoresis System-system according to ~~any of the preceding claims 1, in which~~ wherein a mirror is facing the laser source on the side of the capillaries which is opposed to said ~~laser~~ source.

22. (Newly Added) The multicapillary electrophoresis system according to claim 5, wherein said means for producing multiple focusing on a linear array of capillaries comprises microlenses.

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23. (Newly Added) A multicapillary electrophoresis system comprising:
a plurality of juxtaposed capillaries,
at least one source for the emission of a beam intended to excite molecules
lying in its path and inside the capillaries and means for detecting the fluorescence of
the molecules excited by said beam, wherein said means are arranged so as to detect
the light which emerges at the exit of said capillaries and which propagates along the
direction in which said capillaries extend, the resolution of the detection means is high
enough to distinguish the light which emerges at the exit of each of the capillaries, and
the portion of the outside of the wall of the capillaries between the impact of the
excitation beam and the end of the capillaries is turned black.

24. (Newly Added) The multicapillary electrophoresis system according to
claim 23, wherein the resolution of the detection means is high enough to distinguish
the light which emerges at the exit of each of the capillaries from that coming from the
walls of the latter and/or from the medium which surrounds them.

25. (Newly Added) The system according to claim 23, further including said
plurality of juxtaposed capillaries forming at least one linear array.

26. (Newly Added) The system according to claim 23, wherein the excitation
beam is of elongate cross section and strikes several juxtaposed capillaries
simultaneously.

27. (Newly Added) The system according to claim 25, further including
means for producing multiple focusing on a linear array of capillaries.

28. (Newly Added) The system according to claim 25, wherein the beam
exiting the side of one capillary of one linear array is focused onto the adjacent
juxtaposed capillary within the following linear array.

29. (Newly Added) The system according to claim 28, wherein the space
between the capillaries is filled, at least along the path of the excitation beam, with a
material whose refractive index is chosen so that the excitation beam does not diverge
after having traveled through a capillary.

30. (Newly Added) The system according to claim 29, wherein said material is transparent and non-fluorescent.

31. (Newly Added) The system according to claim 23, further including means for applying pressure in a detection cuvette, which pressure allows the capillaries to be filled with a separate matrix. 112

32. (Newly Added) The system according to claim 23, further including dispersion means for spatially separating the various fluorescence wavelengths.

33. (Newly Added) The system according to claim 23, wherein the detection means provide a complete image of the light exiting the capillaries.

34. (Newly Added) The system according to claim 23, wherein the detection means further includes detection means of the charge-coupled device (CCD) type, as well as focusing means.

35. (Newly Added) The system according to claim 23, wherein the detection means further includes detection means of the charge-coupled device (CCD) type, as well as a fiber bundle interposed between the exits of the capillaries and the detection means of the charge-coupled device (CCD) type.

36. (Newly Added) The system according to claim 23, wherein the refractive index of the media outside of the capillaries is less to that of the medium inside of the capillaries.

37. (Newly Added) The system according to claim 23, wherein the capillaries are glued on a support using a non-transparent glue.

38. (Newly Added) The system according to claim 23, wherein the distance between the impact of the excitation beam on the capillaries and the end of the capillaries is between 6 to 30 times the internal diameter of the capillaries.

39. (Newly Added) The system according to claim 23, wherein a mirror is facing the source on the side of the capillaries which is opposed to said source.

ay 40. (Newly Added) The system according to claim 27, wherein said means for producing multiple focusing on a linear array of capillaries comprises microlenses.